



IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
LUFKIN DIVISION

LEONARD ARSEMENT,

Plaintiff,

v.

UNION PACIFIC RAILROAD COMPANY,

Defendant.

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CIVIL ACTION NO. 9:07-CV-80-TH
JURY

**MEMORANDUM OPINION REGARDING
ADMISSIBILITY OF ROBERT ANDRES' TESTIMONY**

Before the Court is *Defendant Union Pacific Railroad Company's Motion to Strike Plaintiffs' Expert Witness, Robert Andres* [Clerk's Docket No. 118] filed May 8, 2008. Having considered the motion and responsive pleadings, the Court is of the opinion that the motion should be **DENIED**.

I. FACTUAL & PROCEDURAL BACKGROUND

Plaintiff Leonard Arsement is a switchman/brakeman who has worked for Union Pacific since 1973. Plaintiff alleges that he has sustained personal injuries related to an occupational exposure to ergonomic risk factors as a locomotive engineer in the course of his employment with Union Pacific. On February 12, 2007, Plaintiff initiated this lawsuit alleging various injuries and seeking compensatory damages pursuant to the FEDERAL EMPLOYERS' LIABILITY ACT (FELA), 45 U.S.C. § 51, *et seq.*

The Plaintiff has identified Robert O. Andres, Ph.D. as an expert witness in the field of biomechanics and ergonomics.¹ Dr. Andres offers opinions in two general areas: (1) whether Mr.

¹ According to *Webster's New World Dictionary*, ergonomics is "the study of the problems of people in adjusting to their environment, especially the science that seeks to adapt work or working conditions to suit

Arsement was exposed to ergonomic risk factors in the course of his employment with Union Pacific; and (2) an evaluation of the safety and health program Union Pacific had in place systematically to deal with ergonomic issues for their workers during the time plaintiff was employed thereby.

The defendant has moved to exclude the testimony of Dr. Andres pursuant to FEDERAL RULE OF CIVIL PROCEDURE 702. The defendant contends that: (1) Dr. Andres does not have sufficient information to make a biomechanical or ergonomic evaluation in this case; (2) Dr. Andres' opinions are unreliable; and (3) Dr. Andres' opinions are not relevant in that they do not assist the trier of fact in understanding or determining a fact in issue.

II. ADMISSIBILITY OF DR. ANDRES' TESTIMONY

A. Introduction

Trial courts are charged with the responsibility of acting as the gatekeepers of expert testimony.² *See Daubert v. Merrell Dow Pharm, Inc.*, 509 U.S. 579, 590-93 (1993); *see also Seatrax, Inc. v. Sonbeck Int'l, Inc.*, 200 F.3d 358, 371-72 (5th Cir. 2000). When expert testimony has been challenged, it is incumbent on the court to conduct a preliminary fact-finding to determine whether the expert is qualified to render the proffered opinions and whether the substance of the testimony is both reliable and relevant. *See* FED. R. EVID. 702; *see also* FED. R. EVID. 104(a); *see also Knight v. Kirby Inland Marine, Inc.*, 482 F.3d 347, 352 (5th Cir. 2007). Following the fact finding, "the court must articulate its basis for admitting expert testimony." *See Rodriguez v. Riddell*

the worker." The National Institute for Occupational Safety and Health (NIOSH) defines ergonomics as "the study of people at work with the goal of reducing stress and eliminating injuries and disorders associated with the overuse of muscles, bad posture and related tasks."

² This being said, "the trial court's role as gatekeeper is not intended to serve as a replacement for the adversary system." *See United States v. 14.38 Acres of Land Situated in Leflore County, Mississippi*, 80 F.3d 1074, 1078 (5th Cir. 1996). "Vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence." *Id.* (quoting *Daubert*, 509 U.S. at 596). "[T]he district court should approach its task 'with proper deference to the jury's role as the arbiter of disputes between conflicting opinions.'" *Id.* at 1077.

Sports, Inc., 242 F.3d 567, 581(5th Cir. 2001).

The party proffering expert testimony has the burden of establishing by a preponderance of the evidence that the challenged expert testimony is admissible. *See* FED. R. EVID. 104(a); *see also Moore*, 151 F.3d at 276. The proponent does not have to demonstrate that the testimony is correct, only that the expert is qualified and that the testimony is relevant and reliable. *See Moore*, 151 F.3d at 276 (*citing In re Paoli R.R. Yard PCB Litigation*, 35 F.3d 717, 744 (3d Cir. 1994)). That one line of expert testimony is found to be reliable and therefore, admissible, does not mean that contradictory testimony should be excluded as unreliable. *See* ADVISORY COMMITTEE NOTE TO FED. R. EVID. 702.

A trial court's determination regarding the qualifications, reliability and relevance of an expert, and the procedure³ utilized to make those determinations, is reviewed for abuse of discretion. *McClain v. Lufkin Industries*, 519 F.3d 264, 279 (5th Cir. 2008)(“an appellate court owes great deference to the findings of the trial court with respect to duly admitted expert testimony”).

B. FEDERAL RULE OF EVIDENCE 702

FEDERAL RULE OF EVIDENCE 702 provides:

If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if: (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

C. Qualifications of Dr. Andres

³ “Trial courts should be allowed substantial discretion in dealing with *Daubert* questions; any attempt to codify procedures will likely give rise to unnecessary changes in practice and create difficult questions for appellate review.” *See* ADVISORY COMMITTEE NOTE TO FED. R. EVID. 702 (*quoting* Daniel J. Capra, *The Daubert Puzzle*, 38 Ga. L. Rev. 699, 766 (1998)).

With respect to qualifications, the proponent must demonstrate that the expert possesses a higher degree of knowledge, skill, experience, training or education than an ordinary person. *See* FED. R. EVID. 702. However, the “emphasis on qualifications over reliability of the expert testimony reflect[s] a pre-*Daubert* sensibility.” *See Rushing v. Kansas City S. Ry. Co.*, 185 F.3d 496, 507 (5th Cir. 1999). “As long as some reasonable indication of qualification is adduced, the court may admit the evidence without abdicating its gate-keeping function.” *Id.*

Because Union Pacific has not moved to exclude Dr. Andres’ opinions based upon his qualifications, the Court need not detail his qualifications here, but notes for the record that the plaintiff has adduced well more than what the Court considers a reasonable indication of his qualifications for the record.

D. Reliability

1. Dr. Andres’ Testimony is Based Upon Sufficient Facts and Data

The first requirement of the reliability inquiry is one of sufficiency, inquiring whether the expert’s testimony is grounded upon sufficient facts and data. This consideration is quantitative rather than qualitative in nature. *See* ADVISORY COMMITTEE NOTE TO FED. R. EVID. 702. The “facts and data” language is broad enough to include: reliable opinions of other experts, hypothetical facts supported by the evidence and facts that may be otherwise admissible. *Id.* “When facts are in dispute, experts sometimes reach different conclusions based on competing versions of the facts.” *Id.* “The emphasis . . . on ‘sufficient facts or data’ is not intended to authorize a trial court to exclude an expert’s testimony on the ground that the court believes one version of the facts and not the other.” *Id.*

The Court finds that Dr. Andres’ opinions are based on sufficient facts and data. With respect to Mr. Arsement, Dr. Andres has reviewed his litigation file, work history, medical diagnoses and treatments, descriptions of the locomotive engineer position and job analysis summaries. His opinions are based in part on a review of approximately seventy (70) Union Pacific videotapes demonstrating locomotive operations, as well as his inspection and measurements of strength and force requirements to perform locomotive engineer tasks on Union Pacific exemplar locomotives during the time period relevant to Mr. Arsement’s employment. He reviewed NIOSH work

sampling studies and a cross-sectional epidemiological study. He relied upon scientific literature and industry materials concerning exposure to ergonomic risk factors in formulating his opinions.

He likewise considered the template for a comprehensive ergonomic program promulgated by OSHA, NIOSH, NSC and the AAR. Finally, he draws upon 28 years of experience and practice in the field of ergonomics and over a decade of experience studying the railroad industry. The Court finds this data both sufficient as well as of the type reasonably relied upon by experts in the field of ergonomics.

2. Dr. Andres' Testimony is the Product of Reliable Principles and Methods and Dr. Andres Has Applied the Principles and Methods Reliably to the Facts of the Case

The second and third prongs of the reliability inquiry are qualitative in nature, requiring that the principles and methods be both reliable in and of themselves and reliably applied to the facts of the case. Courts have considered various factors as indicators of whether these two requirements have been satisfied:

- (1) whether the theory or technique underlying the expert's testimony can be or has been tested;
- (2) whether the theory or technique has been subject to peer review and publication;
- (3) the technique's known or potential rate of error and the existence and maintenance of standards and controls;
- (4) whether the theory or technique is generally accepted in the relevant field of expertise;
- (5) whether the theory or technique was developed independent of or expressly for the purpose of litigation;
- (6) whether the expert has unjustifiably extrapolated from an accepted premise to an unfounded conclusion;

- (7) whether the expert has adequately accounted for obvious alternative explanations;
- (8) whether the expert has utilized a standard of care comporting with the standard generally required by the field of expertise; and
- (9) whether the field of expertise is known to reach reliable results.

See Daubert, 509 U.S. at 592-94; *see also Burtleson v. Texas Dept. of Criminal Justice*, 393 F.3d 577, 583 (5th Cir. 2004); *see also Daubert v. Merrell Dow Pharm., Inc.*, 43 F.3d 1311, 1317 (9th Cir. 1995); *see also General Electric Co. v. Joiner*, 522 U.S. 136, 146 (1997); *see also Claar v. Burlington N. R.R.*, 29 F.3d 499 (9th Cir. 1994); *see also Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 152 (1999); *see also Sheehan v. Daily Racing Form, Inc.*, 104 F.3d 940, 942 (7th Cir. 1997); *see also Moore v. Ashland Chemical, Inc.*, 151 F.3d 269 (5th Cir. 1998)(en banc).

The above referenced list of factors is not exclusive and all factors do not apply in every case. *See Daubert*, 509 U.S. at 593 (“[m]any factors will bear on the inquiry and we do not presume to set out a definitive checklist or test”). The test of reliability and relevance is flexible, and courts are given broad latitude to determine which factors are appropriate based upon the type of testimony at issue. *Id.*; *see also Kumho Tire*, 526 U.S. at 151-52. Finally, no single factor is dispositive on the admissibility of a particular expert’s testimony. *See, e.g., Heller v. Shaw Indus., Inc.*, 167 F.3d 146, 155 (3d Cir. 1999).

Dr. Andres’ testimony is the product of reliable principles he has applied the principles reliably to the facts of the case. Dr. Andres’ methodology involved an ergonomic analysis of locomotive engineer job tasks, which included: (1) screening for ergonomic risk factors; (2) an observational analysis of ergonomic risk factors present in job tasks performed by Mr. Arsement; and (3) a biomechanical analysis of forces and postures needed to drive different locomotives. He additionally undercook a bench marking analysis of Union Pacific’s ergonomic efforts compared to accepted best practices of reasonable industrial employers. These analyses were undertaken with an eye toward determining when Union Pacific should have known about the presence of ergonomic risk factors associated with work-related musculoskeletal disorders and what steps a reasonable

employer would have undertaken to address such risks.

The above-described methodologies underlying Dr. Andres' testimony have been subject to peer review and publication dating back to 1976. In 2005, he published an article in *Applied Ergonomics*, a peer reviewed publication, on issues concerning ergonomics within the railroad industry. The methodology that he used in reaching his conclusions is generally accepted in the field of biomechanics and ergonomics. That ergonomic risk factors exist in a certain occupations and that known remedial measures alleviate such risks has been widely described and accepted in the scientific community. That corrective actions can address ergonomic risk factors has been commonly accepted in the scientific community for several decades. Dr. Andres has utilized a standard of care comporting with the standard generally required by the field of ergonomics. Additionally, the field of ergonomics is known to reach reliable results. The Court finds that Dr. Andres has not unjustifiably extrapolated from an accepted premise to an unfounded conclusion. Finally, there is nothing before the Court to suggest that the techniques used by Dr. Andres were developed for the purpose of litigation.

For all of these reasons, the Court concludes that Dr. Andres' testimony is the product of reliable principles and that he has applied the principles reliably to the facts of this case.

E. Dr. Andres' Opinions are Relevant

The Court finds that Dr. Andres' opinions will assist the trier of fact in understanding the evidence and determining facts in issue. Dr. Andres' testimony will assist the jury in determining whether the employer's negligence played any part in producing the injury for which damages are sought. He will testify regarding the occupational risk factors,⁴ whether the plaintiff was exposed to ergonomic risk factors during his employment with Union Pacific, as well as whether Union Pacific should have been aware of this exposure. These opinions will assist the jury in determining whether he was exposed to a workplace that was not reasonably safe. His opinion as to the existence

⁴Excluding those risk factors associated with the lower extremities, per this Court's order on Defendant's motion in limine.

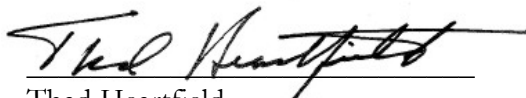
and quality of Union Pacific's ergonomics programs will also assist the jury in connection with determining the issue of foreseeability and in assessing the degree of care a reasonable employer would use in like circumstances. It does not change this Court's opinion that he does not—as defendant complains—state an opinion whether plaintiff would have avoided injury had ergonomic control strategies been implemented by Union Pacific. Finally, the Court disagrees with defendant's contention that his testimony is “so vague as to be meaningless.” Because Dr. Andres' opinions will assist the trier of fact in understanding the evidence and determining facts in issue, the Court finds his testimony to be relevant.

III. ORDER

IT IS THEREFORE ORDERED that *Defendant Union Pacific Railroad Company's Motion to Strike Plaintiffs' Expert Witness, Robert Andres* [Clerk's Docket No. 118] is in all things **DENIED**.

SO ORDERED.

SIGNED this the 17 day of **March, 2009**.


Thad Heartfield
United States District Judge